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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PRICE, CARL D

ART UNIT

PAPER NUMBER

3749

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,947

Applicant(s)

DOWST ET AL.

Examiner

CARL D. PRICE

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-64, 66-73, 80-82, 85, 86, 88-92 and 97-105 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-64, 66-73, 80-82, 85, 86, 88-92 and 97-105 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/17/2004
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to amended claims 42-73, 80-82, 85-86, 88-92 and newly added 97-105 have been considered but are moot in view of the new ground(s) of rejection.

The prior art reference of is now relied on to address the scope of the invention as now set forth in the claims.

35 U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. 112: Claims 61, 62, 68, 69

Claims 61, 62, 68, 69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "an aspect ratio" causes the claim to be vague and indefinite since applicant has not define which dimensions of portions, or aspects, of the plate intended be calculated as a ratio.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

35 U.S.C. 102(b): Claims 99-104

Claims 99-104 are rejected under 35 U.S.C. 102(b) as being anticipated by US5881905 (BRADY).

US5881905 (BRADY) shows and discloses a system for heating a substance comprising:

- a vessel (32) comprising a sidewall and a bottom end, the sidewall and the bottom end defining a chamber therein; and
- a thermally conductive member (Figure 6) comprising:
 - a regular undulating, or castellated, shape forming a plurality of outwardly expanding tapered passages (206, 208) there between;
 - having a flat surface coupled (i.e. – in contact with) to the vessel peripherally about a central area (2) of the bottom end; and
 - a heater (30; see column 3, lines 32-37; lines 53-59).

See in particular, US5881905 (BRADY) at column 3, lines 53-59:

“Since the passing hot air and steam is traveling along convoluted paths, that hot air and steam are exposed to a large area on the base 36 of the second pot. Consequently, a high efficient heat transfer occurs between the passing heat and the second pot. The contents of the second pot therefore are warmed accordingly.

35 U.S.C. 102(b): Claims 99-104

Claims 99-104 are rejected under 35 U.S.C. 102(b) as being anticipated by Danish Patent 32658 (Hansen)(of record).

Danish Patent 32658 (Hansen) shows and discloses a system for heating a substance comprising:

- a vessel (not shown) comprising a sidewall and a bottom end, the sidewall and the bottom end defining a chamber therein; and
- a thermally conductive member (1) comprising:
 - a regular undulating, or castellated, shape forming a plurality of outwardly expanding tapered passages (3) there between; and
 - having a flat surface (at 1) coupled (i.e. – in contact with) to the vessel peripherally about a central area (2) of the bottom end; and
- a heater (not shown).

35 U.S.C. 102(b): Claims 66, 67, 68, 69, 70, 71, 80, 89, 99-105

Claims 66, 67, 68, 69, 70, 71, 80, 89 and 99-105 are rejected under 35 U.S.C. 102(b) as being anticipated by GB2239087 (Simeoni)(newly cited).

GB2239087 (Simeoni) shows and discloses a system for heating a substance comprising:

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a vessel (Figure 2) comprising a sidewall and a bottom end, the sidewall and the bottom end (not referenced) defining a chamber therein; and

a thermally conductive member (1) comprising:

a regular undulating, or castellated, shape forming a plurality of outwardly expanding tapered passages (5) there between; and

having a flat surface (4) coupled to the vessel peripherally (see page 5, line 19) about a central area (7) of the bottom end; and

a heater (3).

35 U.S.C. 102(b):

Claims 42-48, 50, 52, 53, 54, 56, 58, 61, 62, 63, 64, 68, 69, 70, 71, 80, 86, 88, 89, 91

Claims 42-48, 50, 52, 53, 54, 56, 58, 61, 62, 63, 64, 68, 69, 70, 71, 80, 86, 88, 89 and 91 are rejected under 35 U.S.C. 102(b) as being anticipated by US2595527 (KELLS ET AL).

US2595527 (KELLS ET AL) shows a heating vessel (10) with a heater for heating a substance, the heater having a heat source including a burner head (34) and a port for coupling to a fuel supply system, the heating vessel comprising:

- a vessel having:
 - an inner vessel (11, 20) with enclosed sides, a thermally conductive bottom end (12, 22) and a top end forming an opening having a cover (17), the bottom end having an external bottom surface (22) having a central area ; and
 - an outer shell (14);

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- a series of integrally formed thermally conductive protrusions (55; and 15) coupled to the vessel peripherally about the central area, the protrusions extending from the vessel and defining with the central area a cavity configured for receiving heat output from the burner; and
- a thermal insulator 14, 24 substantially encasing the vessel and wherein a lower portion extends downwardly to encompassed the protrusions (15; 55);
- a skirt encasing the protrusions (15; 55) and comprising exhaust vents (48) and coupled to a vessel base (51);
- the base (15, 16) surrounding a portion of the heater and defining a set of air vents (i.e. – the spaces between the base portion 16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

35 U.S.C. 103(a):

Claims 43-45, 49, 51, 59, 60, 8, 82, 85, 88, 90, 92, 97 and 98

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Claims 43-45, 49, 51, 59, 60, 81, 82, 85, 88, 90, 92, 97 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over US2595527 (KELLS et al) (of record) in view of US5881905 (BRADY), Danish Patent 32658 (HANSEN) or GB2239087 (SEMEONI).

US2595527 (KELLS ET AL) discloses the invention substantially as set forth in the claims with possible exception to:

- the protrusions comprising, for the purpose of increasing the heat transfer efficiency between through the vessel bottom wall, a single flat member having regular undulating, or castellated, shapes forming a plurality of outwardly expanding tapered passages there between.

As discussed herein above each of US5881905 (BRADY), Danish Patent 32658 (HANSEN) and GB2239087 (SEMEONI), all from the same heating vessel field of endeavor as US2595527 (KELLS et al), providing vessels with a single flat member having regular undulating, or castellated, shapes forming a plurality of outwardly expanding tapered passages there between, for the purpose of increasing the heat transfer efficiency between through the vessel bottom wall.

In regard to claims 43-45, 49, 51, 59, 60, 81, 82, 85, 88, 90, 92, 97 and 98, for the purpose of increasing the heat transfer efficiency between through the vessel bottom wall, it would have been obvious to a person having ordinary skill in the art to modify the protrusions of US2595527 (KELLS ET AL) to be in the form of a single flat member having regular undulating, or castellated, shapes forming a plurality of outwardly expanding tapered passages

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there between, in view of the teaching of US5881905 (BRADY), Danish Patent 32658 (HANSEN) or GB2239087 (SEMEONI). In regard to claims 43-45, 49, 51, 59, 60, 81, 82, 85, 88, 90, 92, 97 and 98, since shape of the protrusions (e.g. – pins), the manner of coupling (e.g. – soldering, brazing, gluing, etc.), the height of the vessel, length of the protrusions, aspect ratio of the protrusions, etc. would depend on numerous design concerns such as the overall size and shape of both the burner and vessel, the type of substance being heat, the amount of heat intended to be transferred to the substance through the vessel wall, etc., to configure the protrusions to have an aspect ratio of at least about 5, or an aspect ratio between about 10 and 20, and a vessel height of H and wherein a portion of the vessel sides traversed by said protrusions is less than about 1/4 of said vessel height H, can be viewed as nothing more than merely a matter of choice in design absent the showing of any new or unexpected results produced there from over the prior art of record. In regard to claim 85, Official Notice is taken that it is well known to provide vessels with handles. Thus, in view of that which is well known, it would have been obvious to a person having ordinary skill in the art to provide the US2595527 (KELLS et al) vessel with a handle. In regard to claim 43, 44 and 45, Official Notice is taken that it is well known to provide heated vessels with removable covers, and to surround heated vessels thermal insulation, for limiting the amount of heat lost through the otherwise open top vessel and exposed exterior vessel walls. Thus, in view of that which is well known, it would have been obvious to a person having ordinary skill in the art to provide US2595527 (KELLS et al) with a cover and surrounding thermal insulation.

Claims 53-56, 72 and 89

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Claims 53-56, 72 and 89, are rejected under 35 U.S.C. 103(a) as being unpatentable over US2595527 (KELLS et al) (of record) in view of US2154305 (Goerl) (of record) and US4643164 (LaForge).

US2595527 (KELLS ET AL) discloses the invention substantially as set forth in the claims with possible exception to:

- the base configured to be stored within the vessel;
- the upper and lower outer housing being separable and including air inlet and exhaust openings; and
- a baffle plate having air passages and located below the burner.

GOERL teaches, from the same vessel heating field of endeavor as US2595527 (KELLS ET AL), providing a skirt (16, 17) configured to peripherally encase the protrusions, the skirt having a series of exhaust vents (54) formed therein; and a base (17) configured to substantially encase the heat source, the base having a set of air inlet vents (56) formed therein, wherein a gas flow path is formed from the air inlet. The skirt is separable from the base and the base is storable within the vessel.

US4643164 (LaForge) teaches, from the same vessel heating field of endeavor as US2595527 (KELLS ET AL), providing a skirt (12, 14) with a series of air (21) and exhaust vents (54); and a base (12) configured to substantially encase the heat source and a baffle plate (24) having air passages and located below the burner. The skirt is separable from the base and the base is storable within the vessel.

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In regard to 53-56, 72 and 89, for the purpose of for the purpose of limiting the flow of heat over the bottom of the vessel and protrusions, it would have been obvious to a person having ordinary skill in the art to modify the base of US2595527 (KELLS ET AL) to include a skirt configured to peripherally encase the protrusions, the skirt having a series of exhaust vents formed therein; and a base configured to substantially encase the heat source, the base having a set of air inlet vents formed therein, wherein a gas flow path is formed from the air inlet, in view of the teaching of Goerl. Also, for the purpose of controlling and distributing the flow of combustion air to the burner, it would have been obvious to a person having ordinary skill in the art to provide US2595527 (KELLS ET AL) with a baffle plate having air passages and located below the burner, in view of the teaching of US4643164 (LaForge)

Conclusion

See the attached PTO FORM for prior art made of record that is not relied upon, which is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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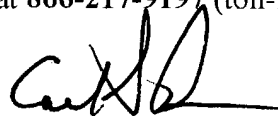
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

USPTO CUSTOMER CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Carl D. Price** whose telephone number is **(571) 272 -4880**. The examiner can normally be reached on Monday through Friday, between the hours of **6:30 am** and **3:30 pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ira Lazarus** can be reached on **(703) 308-1935**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).



Carl D. Price
Primary Examiner
Art Unit 3749